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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/607,291	06/27/2003	Steven Clay Moore	AMG.4017.PAT	8734

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EXAMINER
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STONE, JENNIFER A

ART UNIT	PAPER NUMBER
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2636

DATE MAILED: 12/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/607,291

Applicant(s)

MOORE, STEVEN CLAY

Examiner

Jennifer A. Stone

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>November 30, 2005</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

***Information Disclosure Statement***

1. The IDS submitted by the applicant is acceptable.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 24 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "a previous position" does not describe a previous position of an item or object. In other words, Examiner is unsure whether "a previous position" refers to a shaft. Examiner will interpret the phrase "a previous position" to be in reference to the shaft.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Walton (US 5,966,073).

Walton discloses a system to sense when a turn signal for a vehicle is active and the vehicle is turning and indicates that the vehicle is turning by varying a frequency

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and/or intensity (signal off – 0% intensity; signal on – 100% intensity) with which the turn signal blinks, signaling to other motorists that the vehicle is turning, wherein the frequency and/or intensity with which the turn signal blinks is varied based upon an amount of time during which the vehicle is turning (col 4, lns 50-64).

6. Claims 6 and 7 is rejected under 35 U.S.C. 102(b) as being anticipated by Dantoni (US 5,673,019).

For claim 6, Dantoni discloses an apparatus to communicate a turn of a vehicle, the apparatus comprising: a sensor to detect a position of a shaft of a vehicle (col 4, lns 55-60; Fig. 2, item 260); a control circuit to generate an output signal (col 3, lns 44-51; col 4, lns 60-67; Fig. 1A, item 266), wherein the output signal varies based upon the position of the wheel; and a turn signal lamp to produce a turn signal based upon the output signal (col 3, lns 60-67; col 4, lns 1-4; Fig. 1A, items 213,214,221,222,224,225).

For claim 7, Dantoni discloses a switch to activate the control circuit to indicate the turn upon activation of the switch (col 4, lns 30-40; Fig. 1A, item 218).

7. Claims 11-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Dantoni (US 5,673,019).

For claim 11, Dantoni discloses an apparatus to communicate a turn of a vehicle, the apparatus comprising: a sensor to detect an angle of a wheel of a vehicle (col 2, lns 26, 27, and 35-42); a control circuit to generate an output signal (col 5 lns 32-40; Fig. 1A, item 266), wherein the output signal varies based upon the angle of the wheel; and a turn signal lamp to produce a turn signal based upon the output signal (col 3, lns 55-67; col 4, lns 1-4).

For claim 12, Dantoni discloses a switch to indicate the turn upon activation of the switch by the driver (col 4, Ins 30-40; Fig. 1A, item 218).

For claim 13, Dantoni discloses the control circuit comprises a microcontroller to drive the turn signal lamp (Fig. 1B, item 266 and all switches on plate 266; col 3, Ins 40-50).

8. Claim 14 is rejected under 35 U.S.C. 102(b) as being anticipated by Dantoni (US 5,673,019).

The claim is interpreted and rejected for the same reasons as stated in the rejection of claim 6.

9. Claim 18 is rejected under 35 U.S.C. 102(b) as being anticipated by Dantoni (US 5,673,019).

The claim is interpreted and rejected for the same reasons as stated in the rejection of claim 11.

10. Claim 32 is rejected under 35 U.S.C. 102(b) as being anticipated by Walton (US 5,966,073).

Walton discloses a method for communicating a turn of a vehicle, the method comprising: determining an amount of time the vehicle has been moving while the wheels are turned; varying an output signal based upon the amount of time; and applying the output signal to a turn signal lamp to vary an intensity of a turn signal for the vehicle (col 4, Ins 50-64).

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Walton (US 5,966,073).

Walton discloses control circuitry to take switching and sensory inputs and output a pulsing sequence to a circuit of the controller that drives the turn signal lamps when the vehicle is turning (col 4, Ins 50-57). It is well-known that a microcontroller is used for compacting circuitry to meet the requirements of smaller designs.

13. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Walton as applied to claim 1, and further in view of Goertler et al. (US 4,348,655).

Walton discloses a pulsing turn signal, but does not disclose a pulse generator dependent on analog voltage levels. However, Goertler discloses pulse generators where the duty cycle and amplitude of the turn signal is dependent upon analog voltage levels, to output a pulsing sequence to a circuit that drives the turn signal lamps when the vehicle is turning (col 4, Ins 52-68; Fig. 1, items 40-48). It would have been obvious to one of ordinary skill in the art, at the time the invention was made to use a pulse generator for a turn signal dependent on analog voltage levels so that the generator is

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developed as a voltage controlled oscillator in order to produce an output from a specific signal.

14. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walton as applied to claim 1, and further in view of Dantoni (US 5,673,019).

For claim 4, Walton discloses that the turn signal is operated by the turning of the vehicle, however, Walton does not specifically disclose a shaft sensor. Dantoni, on the other hand, discloses a shaft position sensor, or other resistive, capacitive or inductive sensor, to determine an amount to alter the frequency or intensity of the turn signal (col 2, lns 1-8 and 27-40). It would have been obvious to alter the frequency or intensity of the turn signal based on a shaft position sensor in order to relay detailed information to other drivers about the nature of a turning vehicle.

For claim 5, Walton discloses the system adapted to adjust the turn signal frequency and/or intensity according to a position of a shaft and/or the amount of time (col 4, lns 53-62), but does not disclose a proportional relationship between frequency and/or intensity and a position of a shaft and/or the amount of time. However, Dantoni discloses a proportional relationship between frequency and/or intensity according to a position of a shaft and/or the amount of time (col 1, lns 7-10 and 49-56; col 2, lns 1-8; col 4, lns 55-60; Figs. 1A, 1B). It would have been obvious to vary the intensity of the turn signal light proportionally to the shaft position or the amount of time the vehicle is turning in order to relay detailed turning status to other drivers on the roadway.

15. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dantoni (US 5,673,019).

Even though Dantoni does not specifically disclose varying wattage to vary intensity, it is obvious that wattage is varied in order to vary intensity because varying level of power (wattage) is required for the circuit depending on the number of illuminated lamps.

16. Claims 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dantoni (US 5,673,019), as applied to claim 6, and further in view of Middlebrooke et al. (US 4,638,295).

For claim 8, Dantoni does not disclose varying a frequency of the turn signal, however, Middlebrooke discloses this feature (col 1, lns 7-14; col 6, lns 40-55; col 10, lns 17-20 and 48-63). It is obvious that wattage is varied in order to vary a frequency since during a period of time a certain amount of work is accomplished. Consequently, power (watts) is an indication of the work accomplished.

For claim 10, Dantoni does not disclose the control circuit comprises a pulse generator or flasher relay to vary a duty cycle of the output signal; however, Middlebrooke discloses this feature (Fig. 2A, items 92, 94; col 6, lns 1-6). It would have been obvious to vary a duty cycle of the output signal by providing motorists with two speeds of flashing light patterns to distinguish between two conditions or levels of warning (i.e. turning).

17. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dantoni (US 5,673,019), as applied to claim 14, and further in view of Middlebrooke et al. (US 4,638,295).



The claim is interpreted and rejected for the same reasons as stated in the rejection of claim 10.

18. Claims 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Walton (US 5,966,073).

For claim 16, Walton discloses a wheel (inherent feature of a vehicle) to turn a vehicle; sensing that a vehicle is turning; a control circuit to determine a sensing signal indicative of an amount of time that the vehicle has been turning and to generate an output signal, wherein the output signal varies based upon the amount of time; and a turn signal lamp to produce a turn signal based upon the output signal while the vehicle is turning (col 4, Ins 51-62). Even though Walton does not specifically disclose a vehicle turning sensor, it would have been obvious that some sort of detector or sensor is used to sense that the vehicle is turning or continuing in a straight line.

19. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Walton, and further in view of Dantoni (US 5,673,019).

For claim 17, the claim is interpreted and rejected for the same reasons as stated in the rejection of claim 4. In addition, Dantoni discloses a turn signal based upon a rotational displacement of a shaft (col 5, Ins 15-23).

20. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dantoni (US 5,673,019), as applied to claim 18, and further in view of Middlebrooke et al. (US 4,638,295).

Dantoni discloses a circuit breaker and not a microcontroller to generate a pulsing sequence. However, Middlebrooke discloses a control circuit that comprises a

microcontroller to generate a pulsing sequence to drive the turn signal lamp when the vehicle is turning (col 5, lns 59-67; col 6, lns 1-6; Fig. 2A, items 108, 68, 90-96, 110). It is obvious that microcontrollers are often used in lieu of circuit breakers for compacting circuitry to meet the requirements of smaller designs.

21. Claims 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dantoni (US 5,673,019), and further in view of Middlebrooke et al. (US 4,638,295).

For claim 20, the claim is interpreted and rejected for the same reasons as stated in the rejection of claims 6 and 8 as stated above. In addition, it would have been obvious to vary frequency of turn signals in order to warn oncoming traffic that a turning vehicle has committed itself to the turn and that a turn movement is in process.

For claim 21, the claim is interpreted and rejected for the same reasons as stated in the rejection of claim 9 as stated above.

For claim 22, Dantoni discloses a thermal flasher or flashing lamps (col 1, lns 52-56). It is obvious that current varies in order to drive a flashing light.

For claim 23, the claim is interpreted and rejected for the same reasons as stated in the rejection of claim 10 as stated above.

For claim 24, the claim is interpreted and rejected for the same reasons as stated in the rejection of claim 20. Dantoni discloses generating the output signal comprises varying the intensity based upon a rotation displacement between a previous position and the position of the position of the shaft (col 3, lns 14-20; Fig. 8, 9; col 5, lns 46-54).

22. Claims 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dantoni (US 5,673,019), and further in view of Middlebrooke et al. (US 4,638,295).

For claim 25, the claim is interpreted and rejected for the same reasons as stated in the rejection of claims 11 and 20 as stated above regarding angle of wheel.

For claim 26, the claim is interpreted and rejected for the same reasons as stated in the rejection of claim 8 as stated above regarding wattage.

For claim 27, the claim is interpreted and rejected for the same reasons as stated in the rejection of claim 10 as stated above regarding duty cycle. In addition, it is obvious that Middlebrooke discloses amplitude is varied as the indicator flashes at two different rates (col 2, Ins 35-40).

23. Claims 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walton, and further in view of Middlebrooke et al. (US 4,638,295).

For claim 28, Walton discloses a method for communicating a turn of a vehicle, the method comprising: generating an output signal to communicate the turn, wherein intensity of the output signal varies based upon an amount of time the vehicle has been moving while the wheels are turned; and applying the output signal to a turn signal lamp to vary an intensity with which the turn signal flashes (col 4, Ins 50-64). Walton does not disclose that the frequency is varied; however, Middlebrooke discloses this feature (col 2, Ins 35-42). It would have been obvious to vary frequency of turn signals in order to warn oncoming traffic that a turning vehicle has committed itself to the turn and that a turn movement is in process.

For claim 29, the claim is interpreted and rejected for the same reasons as stated in the rejection of claim 28 regarding intensity.

For claim 30, Walton discloses varying intensity of the turn signal. It is obvious that wattage or power is applied and varied to a blinker for the turn signal.

For claim 31, it is obvious that a duty cycle and amplitude is varied in order to vary the intensity of the turn signal.

24. Claims 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Walton, and further in view of Middlebrooke et al. (US 4,638,295).

For claim 33, the claim is interpreted and rejected for the same reasons as stated in the rejection of claim 28 as stated above.

25. Claims 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walton.

For claim 34, the claim is interpreted and rejected for the same reasons as stated in the rejection of claim 31 as stated above.

For claim 35, the claim is interpreted and rejected for the same reasons as stated in the rejection of claim 30 as stated above.

26. Claims 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dantoni (US 5,673,019), and further in view of Middlebrooke et al. (US 4,638,295).

For claim 36, the claim is interpreted and rejected for the same reasons as stated in the rejection of claims 11 and 20 as stated above regarding angle of wheel.

For claim 37, the claim is interpreted and rejected for the same reasons as stated in the rejection of claims 8 and 26 as stated above regarding wattage.

For claim 38, the claim is interpreted and rejected for the same reasons as stated in the rejection of claim 27 as stated above.

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27. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dantoni (US 5,673,019),

For claim 39, Dantoni discloses a method for communicating a turn of a vehicle, the method comprising: sensing a position of a shaft of the vehicle; generating an output signal for the vehicle (col 2, Ins 27-42), wherein a wattage of the output signal varies based on the position of the shaft; and applying the output signal to a turn signal lamp to vary an intensity of a turn signal generated by the turn signal lamp based upon the position (col 4, Ins 12-30). It is obvious that a certain amount of work (measured as wattage) is accomplished as the position of the shaft is varied. The shaft sensor acknowledges a turning condition by recognizing that work (a turn) has been performed.

28. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dantoni (US 5,673,019), and further in view of Middlebrooke et al. (US 4,638,295).

For claim 40, the claim is interpreted and rejected for the same reasons as stated in the rejection of claim 27 as stated above.

### ***Response to Remarks***

29. Applicant's arguments with respect to currently amended claims 1-5 and new claims 6-40 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

30. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

31. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Meinershagen (US 4,556,862) discloses multiple, sequential lighting for turn signals based on activation of the brake pedal.

Wagner (US 4,638,290) discloses sensors that detect angular position of a shaft in order to determine turn signal cancellation.

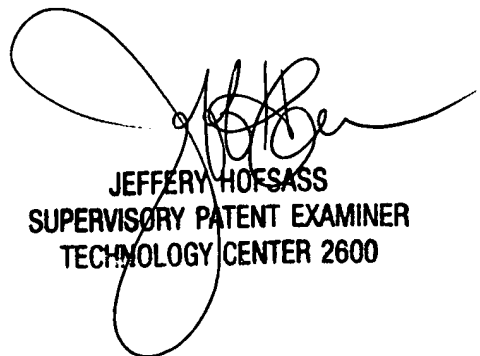
32. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A Stone whose telephone number is (571) 272.2976. The examiner can normally be reached on M-F from 8:00am to 4:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Hofsass, can be reached at (571) 272.2981. The fax phone number for the organization where this application or proceeding is assigned is (571) 273.8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jennifer Stone  
December 15, 2005



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SUPERVISORY PATENT EXAMINER  
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